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TRANSMITTAL LETTER (General - Patent Pending)	Docket No. 42635-0200

In Re Application Of: **Karoleen B. Alexander**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/757,116	01/14/2004	Parsley, David	21611	3643	2947

Title: **A MULTI-LAYERED STRUCTURE FOR TREE WELL SKIRTS AND SIDEWALKS AND METHOD OF MAKING SAME**

COMMISSIONER FOR PATENTS:

Transmitted herewith is:

Applicant/Appellant's Reply Brief

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Before the Board of Patent Appeals and Interferences

In re Application of: Karoleen B. Alexander	Examiner: Parsley, David
USSN: 10/757,116	Group Art Unit: 3643
Filed: January 14, 2004	Confirmation No. 2947
For: A MULTI-LAYERED STRUCTURE FOR TREE WELL SKIRTS AND SIDEWALKS AND METHOD OF MAKING SAME	December 21, 2006 Costa Mesa, California 92626

APPLICANT/APPELLANT'S REPLY

Mail Stop Appeal Brief – Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant's reply is filed in response to the Examiner's Answer of November 20, 2006.

ARGUMENT

Although the Examiner's Answer recognizes the requirement to show motivation for combining the five references cited, in the manner suggested, the only basis given is that the two key references Byrne (U.S. 5,396,731) and Tsao et al (U.S. 5,678,353) are both tree skirts and in the same field of endeavor as the invention.

> Therefore it is deemed that the combination of the Byrne and Tsao et al. references discloses the claimed invention given the motivation to combine the references... in that the Byrne reference discloses a tree skirt having a wear layer made of rubber – at 15, 31, and the Tsao et al. reference discloses a tree skirt of similar structure and function using a rubber wear layer made of EPDM. Since each of the Byrne and Tsao et al. references disclose devices using rubber layers it is deemed that it is obvious to one of ordinary skill in the art to use the EPDM rubber of Tsao et al. in place of the rubber used in the Byrne device. (Ex. Ans., pg. 8).

There are only three possible sources for motivation to combine references, the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art. In re Rouffet, 149 F.3d 1350, 1357, 47 U.S.P.Q.2d 1453 (Fed.Cir.1998).

The Examiner's Answer relies on none of these. Furthermore, the characterization of Byrne and Tsao et al. as both directed to tree skirts, each having a wear layer, is intellectually dishonest.

> "The factual inquiry whether to combine references must be thorough and searching." Id. It must be based on objective evidence of record. This precedent has been reinforced in myriad decisions and cannot be dispensed with. In re Lee 277 F.3d 1338, 1343 2002 U.S.P.Q.2d 1430 (Fed.Cir. 2002).

An objective, thorough and searching review of the Byrne and Tsao et al. patents makes clear that, although both Byrne and Tsao et al. are directed to a grass pad, each pad structure, and the nature of the problem solved by the Byrne and Tsao et al. pads, are quite different from each other, as they are from the structure and nature of the problem solved by the present invention.

Rejection of Claim 1

Byrne is concerned with providing a mulch pad made from ground-up used rubber tires, for placement around tree trunks, for the purpose of preventing grass growth around the tree, while allowing moisture and air to pass through to the root system, and insulating the root system (Byrne, Col. 2, lns. 5-7). The Byrne pad may also be used for erosion protection on hillsides, under downspouts, in-walk areas, steps and the like (Byrne, Col. 3, lns. 20-23).

The Examiner's Answer relies on Fig. 8 of Byrne to support the assertion that Byrne has "... a wear layer – at 15, 30, 31, and binder on top of the base layer – see at part of 15 in Figure 8 and columns 4-5" (Ex. Ans., pg. 3). This construction of Byrne ignores the problem solved by Byrne, and the rest of his specification.

Byrne teaches that his pad appears mulch-like (Byrne, Col. 4, ln. 39). The mulch-like pad 31 of Byrne shown in his figure 8 is a larger version of his pad 10 with an internal mesh layer 30 in the center of the pad 31. Use of the mesh layer 30 allows

the pad to be made larger without adding weight, or increasing density, and prevents tearing in undesirable areas (Byrne, Col. 5, lns. 35-55). The pad 31 is made identical to pad 10, with an upper surface 15, a lower surface 16 and an internal reinforcing mesh layer 30 of fiberglass, nylon or polyethylene (Byrne, Col. 5, lns. 45-55).

Byrne's mulch pad does not have a wear layer. This is because his only concern is providing a mulch pad around a tree to prevent weed and grass growth, while allowing moisture and air through to the root system, and insulating the root system (Byrne Col. 2, lns. 5-7). Byrne does not describe or even suggest that his mulch pad has a wear layer. Labeling the top surface 15 of Byrne's pad a wear layer does not make it so. A wear layer, as described in the present application is a firm but resilient surface (Spec. par. 0033), or a dense firm surface with less rolling resistance (Spec. par. 0037). Byrne's top surface 15 of his pad 31 is mulch-like.

Tsao et al. is directed to a grass guard for forming a border around a lawn sprinkler head. Tsao et al. is only concerned with preventing vegetation growth around the sprinkler head. He provides a structure which has a bottom layer of sand bonded with a polymer to form a uniform, plastically compliant body (Tsao, Col. 2, lns. 30-35).

The Tsao et al. grass guard has two layers, a top layer 2 and a bottom layer 3. Top layer 2 is a separate, very low cost, pre-manufactured weaved plastic turf sheet which has an undersurface that is quite uneven and rough and is made from low density polyethylene with a color and surface texture that matches that of grass (Tsao, Col. 4, lns. 22-32). The bottom layer 3 is a heavy grit or powder bonded into a

uniform plastically compliant body by a polymer. Tsao et al. prefers that the heavy grit be sand and suggests that a variety of polymeric binder materials could be used to bind the sand, including EPDM (Tsao, Col. 4, lns. 33-35, lns. 46-55).

Tsao's top layer 2 is not a wear layer. It is a woven plastic sheet of low density polyethylene made to look like grass. The plastic polyethylene sheet covers a bottom layer made of sand and a polymer binder. Tsao et al. does not disclose a top layer of EPDM. Tsao et al. teaches that EPDM may be utilized as the polymeric binder in the bottom layer 3 for creating a bottom layer that is impermeable to growth of plant matter (Tsao, Col. 4, lns. 34-67).

Neither Byrne, nor Tsao et al. disclose, describe or even suggest that their structures could be used as sidewalks. There is a good reason for that. Neither the Byrne mulch mat, or the Tsao et al. grass mat, are suitable for use as sidewalks.

The present invention is. The present invention requires a base layer 16 of butadiene rubber mixed with an isocyanate polyurethane binder, which is cured separately. Then a wear layer 17 is applied over the base layer. The wear layer is a mixture of EPDM with an isocyanate, polyurethane binder. This construction of a base layer of rubber and a binder, and a wear layer of ethylene propylene diene monomer (EPDM) and a binder, on top provides a firm resilient surface that is still flexible enough to accommodate some root movement (Spec. par. 0033, 0032).

Byrne provides a mulch pad of rubber granules which allows moisture and air to pass through to the root system. The top of Byrne's pad is mulch-like. Tsao et al. provides a grass guard utilizing a bottom layer made of a mixture of sand and a

polymer binder, such as EPDM, to create a layer that is impermeable to the growth of plant matter. Tsao et al.'s top layer is a woven mat made of low density polyethylene, colored and textured to look like grass.

The combination of Byrne and Tsao et al. is untenable. However, if they were combined according to the teaching or motivation found in the references, the combination would be a tree skirt with a bottom layer having a mixture of sand and an EPDM binder, a middle layer of rubber granules, and a top layer woven mat of low density polyethylene, colored and textured to match grass. This is not the claimed invention.

Rejection of Claims 2-3, 6-11, 12/10, 12/11, 13 and 14

With respect to claim 2, the Examiner's Answer adds Farley (U.S. 5,730,773) to the combination. Farley is directed to a chemical dispensing device which is a butadiene rubber rope impregnated with a chemical compound, such as fertilizer. The fertilizer impregnated butadiene rubber rope is placed on the ground around flowers or vegetables to slowly release the fertilizer. Farley has no top layer. Farley discloses no base layer of butadiene rubber. Regardless, the Examiner's Answer chooses to assert "Therefore it would have been obvious to one of ordinary skill in the art to take the device of Byrne as modified by Tsao et al. and add the base layer of butadiene rubber of Farley so as to allow for the device to be flexible and resilient" (Ex. Ans., pg. 4).

The combination of Byrne, Tsao et al. and Farley is untenable.

With respect to claim 3, the Examiner's Answer states that Farley discloses that the rubber is recycled vehicle tires or industrial rubber. To the contrary, Farley teaches that the preferred form of rubber to be utilized is natural rubber. "Natural rubber is a preferred embodiment because it is readily shaped, has a high susceptibility to bloom and is soluble with many different types of commercially available fertilizers" (Farley Col. 4, lns. 38-41).

With respect to claims 10-11, 12/10, 12/11, 13 and 14, the Examiner's Answer wipes aside the specific structural limitations in these claims on the grounds that "...these are limitations found through experimentation and it would have been obvious to one of ordinary skill in the art to take the device of Byrne as modified by Tsao et al. and Farley and add the mixture of either 50 or 70% buffings and either 30 or 50% peelings or buffings so as to allow for the device to be of a natural appearance" (Ex. Ans. pg. 5).

Quite to the contrary, a natural appearance is hardly the purpose of these limitations. As set out in the specification, the blend of 70% granular rubber with 30% buffings or peelings provides the best base layer for sidewalks or patios. This was obtained as a result of considerable experimentation (Spec. par. 0040). The 50% granules and 50% peelings or buffings mixture is preferred for tree well skirt applications (Spec. pg. 4, par. 0005).

Furthermore, the claimed thickness parameters for the base layer, was found only after considerable tedious experimentation. For sidewalks, a base layer of two inches is preferred. For tree well skirts, a base layer in the range of one and one half

to three and one-half inches is preferred (Spec. par. 0039). Neither Farley, nor Tsao et al., nor Byrne are concerned with the suitability of their mulch pad, grass mat, or fertilizer rope, for use as sidewalks, let alone be concerned with how thick to make a base layer for sidewalk installation.

This combination is untenable.

Rejection of Claims 4 and 5

The Examiner's Answer adds Stella (U.S. 4,882,386) to the combination for a teaching of isocyanate polyurethane as a binder. Stella is directed to a cured rubber composition of neoprene and an isocyanate binder which makes EPDM sheets highly adhesive, thereby providing adhesive EPDM sheets that are useful to glue substrates such as glass, concrete, or metal (Stella, Col. 9, lns. 9-36). Applicant is at a loss to see how Stella provides any motivation "...to take the device of Byrne as modified by Tsao et al. and Farley and add the binder being isocyanate polyurethane of Stella, so as to allow for the device to be strengthened and thus more durable" (Ex. Ans. pg. 6).

With respect to claim 5, the limitations of the ratio of binder to rubber being 16% by weight is dismissed in the Examiner's Answer as a limitation found by experimentation. This ratio has been found to be optimum for the base layer only after considerable effort and trial and error to make a workable sidewalk that can withstand the foot and wheel traffic required of a sidewalk (Spec. par. 0042).

This combination is untenable.

Rejection of Claims 15-18

The Examiner's Answer dismisses the claimed limitations with the misused Shibboleth "this limitation is found through experimentation."

Rejection of Claims 19-21

The Examiner's Answer adds Schuurink et al. (U.S. 4,205,102) for a teaching that aliphatic diisocyanate may be used as part of a binder mixture.

Schuurink et al. is directed to providing a coating for a cured polyalkylene rubber object. The aliphatic diisocyanate is used in a mixture for a binder for the coating composition. The aliphatic diisocyanate is not the binder. According to Schuurink et al. the coating produced is of high flexibility, a high gloss and excellent hardness (Schuurink, Col. 1, lns. 21-26). These are hardly desirable characteristics for a sidewalk and are not the characteristics of the wear layer of the present invention.

This combination is untenable.

Conclusion

Applicant respectfully submits that, the Examiner's Answer has failed to identify any motivation based on objective evidence of record for combining the chosen references. If the Examiner's Answer had done a thorough and factual inquiry as to the nature of the problems solved by these references, it would have been clear that there is no motivation to combine them. The combinations put forth in the Examiner's Answer are simply an exercise in finding prior art corollaries for the claimed elements.

> [R]ejecting patents solely by finding prior art corollaries for the claimed elements would permit an examiner to use the claimed invention itself as a blueprint for piecing together elements in the prior art to defeat the patentability of the claimed invention... To prevent the use of hindsight based on the invention to defeat patentability of the invention, this court requires the examiner to show a motivation to combine the references that create the case obviousness. In re Rouffet, at 1357.

Failing to show motivation to combine the references, on the basis of at least one of the three possible sources for motivation, the Examiner's Answer does not establish a prima facie case of obviousness. In re Rouffet, at 1358.

Applicant respectfully requests that the rejection of all of the claims be reversed.

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Respectfully submitted,

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